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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/248,756	02/12/1999	LAURIE H GLIMCHER	HUI-021CN	9168

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EXAMINER
LEFFERS JR, GERALD G

ART UNIT	PAPER NUMBER
1636	22

DATE MAILED: 03/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/248,756	Applicant(s) GLIMMCHER, ET AL.	
	Examiner Gerald G Leffers Jr.	Art Unit 1636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 December 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *35,36,38-40,42-49 and 56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/20/02 has been entered.

The submission filed 12/20/02 as Paper No. 19 requested amendment of several claims (claims 35, 38-40 and 42), cancellation of some claims (claims 37 and 41) and addition of a single new claim (proposed as claim 50). As claim 50 has already been presented for examination during prosecution of the instant application, the proposed claim has been entered as the next available claim number, claim 56 (Rule 1.126). Claims 35-36, 38-40, 42-49 and 56 are pending in the instant application.

Response is also acknowledged of a Terminal Disclaimer filed in the instant application over U.S. Patent No. 5,958,671. The Terminal Disclaimer is proper and has been entered into the file. Any rejection of record not addressed in the instant action is hereby withdrawn.

Response to Amendment

Applicants have amended the pending claims to narrow the scope of the invention to that of a method for identification of a compound that modulates production of a Th2-associated cytokine in a cell, where the indicator composition comprises a regulatory element from a Th2-associated cytokine gene and where the maf family protein comprises an amino terminal

transactivation domain and a carboxy terminal basic leucine zipper region. This amendment does not completely ameliorate the grounds of rejection under 35 U.S.C. 112 made in the previous action in that 1) the metes and bounds of the term "maf family protein" remain unclear, and 2) there is no basis in the instant specification or prior art for one to extrapolate the observation that binding of c-maf to MARE in Th2 cells results in the expression of Il-4 to binding of any other "maf-family" protein to a given DNA sequence to result in expression of a Th-2 associated cytokine. The rejections made below are maintained for reasons of record in Paper No. 12 (mailed 6/20/01), Paper No. 13 (mailed 6/27/01) and Paper No. 16 (4/24/02). A response to arguments presented in Paper No. 19 to the rejections made below follows the rejections.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 35-36, 38-40, 42-49 and 56 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. **This rejection is maintained for reasons of record in Papers No. 12-13 and 16.**

Claims 35-36, 38-40, 42-49 and 56 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for embodiments wherein the immune response assayed is the effect of the test compound on expression of an interleukin-4 gene and wherein the maf family protein is c-Maf, does not reasonably provide enablement for practicing the claimed invention with any other immune response and with any other maf family proteins. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. **This rejection is maintained for reasons of record in Papers No. 12-13 and 16.**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 35, 37-39, 41-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims are vague and indefinite in that the metes and bounds of the phrase "a Maf family protein" are unclear. **This rejection is maintained for reasons of record in Paper No. 12 and in the remailed action of Paper No. 13.**

The specification has not defined "Maf family protein" in such a way as to allow one skilled in the art to distinguish between a member of the "Maf family" of bZIP transcription factors (e.g. c-Maf) and a member of the broader super family of bZIP transcription factors (e.g. AP-1) that would not be a Maf protein (e.g. c-Jun). While some transcription factors have been identified in the art as being "Maf" proteins (e.g. MafB, MafK, Nr1, etc.), it is unclear from the specification how one skilled in the art would determine whether a newly discovered AP-1 is a

Maf family protein or not. The distinguishing characteristics of a Maf protein have not been provided in the specification and it is unclear that there are art recognized standards for identifying a Maf protein distinct from any other bZIP family of transcription factors, known and unknown.

Response to Arguments

Applicant's arguments filed 12/20/02 in Paper No. 21 have been fully considered but they are not persuasive. The response essentially argues several points: 1) the method has been narrowed in scope to a method for identification of a compound that modulates production of a Th2-associated cytokine in a cell, where the indicator composition comprises a regulatory element from a Th2-associated cytokine gene and where the maf family protein comprises an amino terminal transactivation domain and a carboxy terminal basic leucine zipper region, 2) one of ordinary skill in the art, in light of the instant specification would readily be able to predict those maf family proteins that can be used in the presently claimed invention, 3) assays are described by the instant specification for confirming a maf family protein's ability to bind and transactivate DNA, 4) the relationship between cytokine regulation and immune response was well known in the art and is described in the instant specification, 5) it is specifically taught in the instant application that production of Il-4 can lead to the production of additional Th2-associated cytokines such as Il-5, Il-10 and Il-13 (page 8, lines 32-37 of the instant specification), 6) the specification teaches structural and functional characteristics of the maf family of proteins, in particular an ability to bind the c-maf response element (MARE).

While it is helpful that the scope of the claimed method has been limited to identifying a modulator of production of a Th2-associated cytokine, the amendment to the claims does not address the fact that the only maf protein that has been shown to elicit production of a Th2-associated protein is c-maf. A critical element for the claimed invention with regard to the written description rejection remains the need to be able to extrapolate from the observation for c-maf to other maf proteins and production of particular Th2-associated cytokines. There remains no basis for one of skill in the art to predict the exact structural/functional characteristics of a maf protein (e.g. primary amino acid sequence of the protein and the sequence of the nucleic acid it binds) that elicits production of a Th2-associated cytokine. Arguments regarding the availability of assays to possibly find such maf proteins are irrelevant with regard to the description requirement.

With regard to the enablement rejection, the fact that assays are available for assaying the ability of a maf protein to bind a particular DNA sequence and possibly transactivate gene expression are known does not address the totality of the Wands factors considered in making the rejection. In particular, none of the teachings outlined above make practicing the claimed invention predictable. For example, the teachings cited in applicants' response concerning the activity of maf proteins and regulation of the immune response deal solely with the effects of c-maf on Il-4 production, with subsequent production of other Th2-associated cytokines. This observation that induction of Il-4 production in Th2 cells can result in the production of additional Th2-associated cytokines may support enablement of embodiments wherein the Th2-associated cytokine gene is the Il-4 gene, the maf protein is c-maf and the Th2-associated cytokine that is produced is Il-5, Il-10 or Il-13. Yet, the observation does not make *predictable*

practicing the invention where the Th2-associated cytokine gene is not Il-4 and the maf protein is not c-maf. Therefore, it would still take undue, unpredictable experimentation to practice the claimed invention when the maf protein is not c-maf or the gene from which the maf-binding element is not Il-4.

With regard to the metes and bounds of the term "maf family protein", most of the arguments concerning the teachings of the instant specification have been dealt with previously. The assertion, however, that the cited passages from the specification teach that any "maf family protein" can be identified by its ability to bind a MARE element is inaccurate. The cited passages (i.e. page 8, lines 9-11; Examples 3-7) merely indicate c-maf binds a MARE element. There is no basis in the cited portions of the specification to indicate that the ability to bind a MARE element defines a protein as being a "maf family protein".

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gerald G Leffers Jr. whose telephone number is (703) 308-6232. The examiner can normally be reached on 9:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Remy Yucel can be reached on (703) 305-1998. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7939 for regular communications and (703) 305-7939 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Gerald G Leffers Jr.
Examiner
Art Unit 1636

Ggl
March 10, 2003